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Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Re: WT Docket No. 06-169 — 700 MHz Guard Band Rules
WT Docket No. 96-86 — 700 MHz Public Safety Rules
WT Docket No. 06-150 — 700 MHz Commercial Service Rules

Dear Ms. Dortch:

Pursuant to Section 1.1206(a) of the Commission's rules,[1] AT&T Inc., on behalf of its affiliate, AT&T Mobility LLC (f/k/a Cingular Wireless LLC) ("AT&T"), hereby urges the Commission to reject the Broadband Optimization Plan ("BOP") and the Commercial 700 MHz Band Plan ("Commercial Plan") offered by Access Spectrum, LLC, Pegasus Communications Corporation et al. (hereinafter "Access/Pegasus"). These proposals to reallocate and shift portions of the Upper 700 MHz spectrum band plan are ill-conceived. Adoption of the BOP would violate the Communications Act of 1934. In addition, it creates serious questions of increased interference risk to public safety and commercial licensees alike. The Commercial Plan, moreover, provides a windfall for Access/Pegasus with no significant public benefit.

AT&T supports efforts to improve public safety communications[2] — but we believe the key public safety benefits associated with the BOP can be achieved *without increasing interference risks or acting adverse to the law*. The Commission should seriously consider two aspects of the BOP on a stand-alone basis: (1) consolidating all the public safety narrowband channels in the upper portion of each public safety block; and (2) providing for broadband capability in the spectrum currently dedicated to wideband channels. For the reasons discussed below, the Commission should dismiss all other elements of the BOP and the Commercial Plan.

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[1] *See* 47 C.F.R. § 1.1206(a).

[2] AT&T, for example, is an active participant in the National Security Telecommunications Advisory Committee's Emergency Communications and Interoperability Task Force, which was formed to analyze potential interoperability approaches and provide solutions to public safety needs. In addition, AT&T is an active participant in the standardization of globally applicable technical specifications for digital mobile broadband technology aimed at the public safety and disaster response sectors (*e.g.*, Project MESA).

The Commission Should Consider Revising the Public Safety Band Plan

As presently configured, the two 700 MHz public safety blocks each contain three sub-bands: 3 MHz for narrowband; 6 MHz for wideband; and 3 MHz for narrowband. This channel designation does not provide for public safety broadband. There is substantial record support for consolidating the narrowband channels into the upper portion of each public safety block and converting the wideband channels to provide for broadband capability. These proposals merit serious consideration. AT&T believes the Commission can introduce public safety broadband capability and reduce the potential for interference by taking these steps. Indeed, to the extent the BOP reduces interference risks to public safety, it is due to consolidation of the narrowband public safety channels.

Further, adopting both modifications referred to above would improve spectrum efficiency. As Access/Pegasus observes, if the existing wideband allocation were converted to broadband, the amount of spectrum available for broadband use would be reduced to 8 MHz (2x4 MHz) because of the need for internal guard bands of 1 MHz each separating public safety broadband operations from narrowband operations. By consolidating the narrowband channels, however, only one internal guard band of 1 MHz would be necessary in each public safety block. As a result, 10 MHz (2x5 MHz blocks) would be available for public safety broadband and 12 MHz (2x6 MHz) would be available for narrowband operations.

The BOP Violates the Communications Act

Section 337. The BOP seeks to undo the spectrum allocation plan mandated by Congress. Section 337 of the Communications Act directs the Commission to:

> [A]llocate the electromagnetic spectrum between 746 megahertz and 806 megahertz, inclusive, as follows:
>
> (1) 24 megahertz of that spectrum for public safety services . . .; and
>
> (2) 36 megahertz of that spectrum for commercial use to be assigned by competitive bidding pursuant to section 309(j).[3]

The BOP conflicts with this statutory requirement by changing the allocation to 27 MHz for public safety and 33 MHz for commercial use.[4] Access/Pegasus recognizes this statutory hurdle but claims that Congress never intended for the Commission to maintain the spectrum allocation set forth in Section 337.[5] Because the Commission has already allocated and auctioned the

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[3] 47 U.S.C. § 337(a).

[4] *See, e.g.,* Comments of Access Spectrum, LLC, Pegasus Communications Corporation, WT Docket Nos. 06-169 and 96-86, at 4-9 (Oct. 23, 2006) ("Access/Pegasus Comments").

[5] *See, e.g.,* Reply Comments of Access Spectrum, LLC, Pegasus Communications Corporation, WT Docket Nos. 06-169 and 96-86, at 20-21 (Nov. 13, 2006) ("Access/Pegasus Reply Comments"); Ex Parte Presentation of Access Spectrum, LLC, Pegasus Communications Corporation, WT Docket Nos. 06-169, 06-150, and 96-86, at 3-4 (Dec. 12, 2006).

spectrum that is subject to the BOP's reallocation proposal, Access/Pegasus claims that Section 337 is satisfied and the spectrum may be immediately reallocated for public safety. According to Access/Pegasus, the Commission only is required to make an initial allocation in conformance with Section 337; once that allocation is made, the Commission is free to reallocate the spectrum as it sees fit.[6] This statutory interpretation is wholly without merit.

Under the Access/Pegasus approach to statutory interpretation, the Commission would have the authority to eliminate immediately the entire upper 700 MHz public safety allocation. The 24 MHz has already been "allocated" for public safety, so the Commission could simply reallocate this spectrum for commercial use. Such an approach clearly would violate Congressional intent and no court would condone a blatant end-run around Section 337.

Section 309(j) The BOP would also undermine the principles underlying Section 309(j), which was adopted to ensure that auctions are generally used to value and award spectrum.[7] The 2 MHz A Block guard band licenses were already awarded at auction, and the BOP would simply give each license another 1 MHz of spectrum which was not included in the valuations and auction bids of the original 2 GHz license. As the *Guard Band NPRM* correctly observes, "If the A Block incumbents receive expanded rights without being required to bid for them, how should such rights be valued, and what mechanisms should be employed to ensure that incumbents do not receive windfall?"[8] Access/Pegasus offers no real answers. This 50 percent increase in spectrum would produce a windfall for the A Block licensees with no corresponding benefit. Access/Pegasus' advocacy for two-sided auction reveals the end game – to obtain a spectrum giveaway and monetize it.

The BOP Increases the Risk of Interference to Public Safety and Commercial Licensees

Section 337 requires the Commission to ensure that 700 MHz band public safety services are not subject to harmful interference from licensees of television broadcast services, and the accompanying Conference Report stated that the Commission should ensure that 700 MHz band public safety licensees "continue to operate free of interference from any new commercial licensees."[9] Access/Pegasus claims that "the sole remaining task before the BOP can be adopted is the finalization of the technical rules addressing interference"[10] and that all the guard band limits adopted to protect public safety, including the cellular architecture prohibition, can be removed without causing interference.[11] The record, however, does not contain sufficient information to support these conclusions or satisfy Congress' clear intent. Indeed, in some cases the BOP affirmatively increases the potential for interference.

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[6] *See, e.g.,* Access/Pegasus Reply Comments at 20-21.

[7] *See Implementation of Section 309(j) of the Communications Act — Competitive Bidding,* PP Docket 93-253, *First Report and Order*, 9 FCC Rcd 7373 (1994).

[8] *Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules,* WT Docket Nos. 06-169 & 96-86, *Notice of Proposed Rulemaking*, 21 FCC Rcd 10413, 10435 (2006) ("*Guard Band NPRM*"),

[9] 47 U.S.C. § 337(d)(4); H.R. Conf. Rep. No. 105-217, 105th Cong., 1st Sess., at 580 (1997).

[10] Access/Pegasus Reply Comments at 3.

[11] *See* Access/Pegasus Comments at 9-11.

Risks to Public Safety. The 700 MHz Technical Working Group ("TWG"), a group of licensees, vendors and public safety entities organized by Access/Pegasus, recently submitted a report "conclud[ing] that there were no inherent technical impediments to implementing the BOP."[12] This carefully worded conclusion does not address the basic matter here – whether the BOP offers adequate interference protections. Continuing concerns regarding both near/far interference and intermodulation interference are discussed below.

The Commission created the 700 MHz guard band licenses, with more rigorous technical restrictions, to operate as a buffer and prevent commercial interference into the public safety allocation. One concern was near-far interference caused by "low-site" commercial cellular systems and "high-site" public safety systems operating in adjacent or nearby spectrum. The BOP raises more near-far interference issues than it solves.

For example, Access/Pegasus proposes to eliminate the prohibition against cellular architecture in guard band spectrum, stating that with the consolidation of the narrowband channels, the risk of interference would be reduced and the cellular ban "would no longer be necessary."[13] The issue is not just risk of interference to narrowband public safety operations but to all 700 MHz public safety operations. Access/Pegasus, however, brushes off the increased risks of interference to the public safety spectrum most at risk – the channels immediately adjacent to the guard band spectrum. The BOP suggests that the cellular ban is unnecessary because commercial and public safety systems operating adjacent to each other will likely deploy broadband services using cellular architectures, thereby reducing any risk of near-far interference. However, there is no requirement that public safety broadband systems follow commercial technologies or deploy similar cellular architectures. Indeed, Access/Pegasus observes, "public safety broadband operations, particularly in rural areas, may be high-site, high-power."[14] The BOP does not explain how the proposed limits would protect these high-site, high-power public safety broadband operations. The TWG Report also fails to justify elimination of the cellular prohibition. The report merely contains conclusory statements. There is no detailed technical analysis demonstrating that adoption of the BOP would eliminate potential interference from cellularized guard band operations. Absent more detailed analysis, it is possible that cellularized operations in the guard bands may create many of the same interference problems for public safety that led to rebanding the 800 MHz band. Accordingly, the cellular prohibition for the guard bands should be retained.

Additionally, the BOP allocates an additional 3 MHz (762.5-764/792.5-794 MHz) to public safety but provides less stringent out-of-band emission ("OOBE") interference protection to this "new" spectrum than the existing public safety spectrum. In other words, 1.5 MHz of the BOP's public safety broadband spectrum would be subject to commercial-to-commercial OOBE protection limits, with the remaining 4 MHz of public safety broadband spectrum subject to the

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[12] Second Report of the 700 MHz Technical Working Group, at 2 (Jan. 26, 2007) (attached to Access/Pegasus Ex Parte of Jan. 26. 2007) ("TWG Report").

[13] *See* Access / Pegasus Comments at 11.

[14] Access/Pegasus Reply Comments at 15.

more rigorous OOBE limits that protect the current public safety spectrum.[15] The TWG Report suggests that the similarity of commercial and public safety broadband deployments (which would be adjacent) makes this concern a non-issue: "TWG anticipates that public safety and CMRS carriers will employ similar broadband technologies, so the CMRS to CMRS protection limits should be adequate to protect public safety broadband operations."[16] Again, there is no requirement that public safety "employ similar broadband technologies" in the spectrum at issue. Further, the Commission has not suggested that it will mandate that public safety operations mirror whatever systems commercial licensees deploy in the adjacent spectrum.

The BOP also creates questions about increased risk of intermodulation interference. The TWG Report recognized that "the BOP may result in a slight increase in potential intermodulation interference from commercial operations into the public safety spectrum"[17] – but it does not quantify the increased risk. Rather, it found that this concern "needs to be considered in the design and deployment of such systems"[18] – with no further elaboration.

The TWG Report also finds that the BOP would have "a net decreasing effect" on the risk of intermodulation interference to narrowband public safety operations. This conclusion, however, is based on theoretical assumptions, not hard analysis. First, it suggests that intermodulation interference to narrowband channels will only occur if a public safety broadband signal is involved, and public safety could mitigate interference "to a significant degree" by controlling the power levels of its broadband signals.[19] Second, it suggests that "hot zones" for intermodulation interference will only occur where public safety and commercial broadband systems deploy on the same or nearby towers and, if this occurs, interference could be prevented "by proper planning, engineering design, and coordination."[20] Again, without analysis, the BOP simply assumes these issues will be easily handled in order to find the risk of intermodulation interference is reduced.

Risks to Commercial Licensees. The BOP eliminates the A Block guard band license between the Upper 700 MHz C Block and the Lower 700 MHz C Block and shifts the Upper 700 MHz C and D Blocks down 1 MHz. In doing so, it increases risks of interference and forces licensees in these bands to take additional measures to avoid causing interference – thereby reducing spectral utilization and/or increasing costs. For example, the presence of the guard band facilitates the ability of Upper C Block and Lower C Block licensees to choose differing access technologies, FDD or TDD. The interference scenario involved with FDD and TDD operations becomes more complicated by the elimination of the guard band.

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[15] TWG Report at 5. If the Commission were only to consolidate the narrowband channels and introduce broadband in the public safety spectrum, all 5 MHz of broadband spectrum would enjoy the current OOBE public safety protections.

[16] *Id.* at 4.

[17] *Id.* at 2 n.5, 7 n.8.

[18] *Id.*

[19] *Id.* at 7.

[20] *Id.*

The Use of 5.5 MHz Blocks Would Slow Deployment and Increase Costs Absent Offsetting Benefits

The Commercial Plan would revise the Upper 700 MHz commercial band plan to establish 5.5 MHz channel blocks, and the BOP's public safety broadband channelization calls for 5.5 MHz blocks as well.[21] Access/Pegasus claims that this plan would "maximize the efficient use of commercial spectrum"[22] and permit "public safety to take advantage of economies of scale as manufacturers develop products for commercial operators in adjacent bands."[23] These claims are contradicted by record evidence. Ericsson specifically opposed adoption of 5.5 MHz channel bandwidths because "modifying equipment to take advantage of the additional block sizes would add cost and require changes to the technology standards, greatly limiting potential benefits . . . [and] could cause delays in obtaining equipment for the band.[24] Ericsson further notes:

> Five MHz blocks have been used in global spectrum allocations for broadband services, the FCC's rules for Advanced Wireless Services, and in technology standards, and equipment has already been designed to operate using this block size. If the FCC adopts an alternative spectrum allocation that sends standards-setting bodies and equipment manufacturers back to the drawing boards, it will unnecessarily increase costs and create network deployment delays for public safety and commercial providers without any additional benefit.[25]

Given the desire to avoid any delay associated with the deployment of 700 MHz public safety networks, the Commission should reject the use of 5.5 MHz blocks.

Moreover, public safety will be able to take advantage of economies of scale if the current 5 MHz channelization plan for the commercial 700 MHz spectrum remains unchanged.[26] As discussed above, consolidating all the public safety narrowband channels and providing for broadband in the remaining public safety channels would produce 5 MHz public safety broadband channels with additional spectrum serving as a guard band between public safety broadband and narrowband. Public safety, therefore, could take advantage of manufacturing economies without altering the commercial allocation.[27] Reconfiguring the commercial and

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[21] Access/Pegasus Comments at 3.

[22] *Id.* at 7.

[23] *Id.* at 8.

[24] Comments of Ericsson Inc, WT Docket Nos. 06-169 and 96-86, at 13 n.19 (Oct. 23, 2006) ("Ericsson Comments"). Access/Pegasus filed reply comments but did not dispute the problems Ericsson identified.

[25] Reply Comments of Ericsson Inc, WT Docket Nos. 06-169 and 96-86, at 3 (Nov. 13, 2006) ("Ericsson Reply Comments").

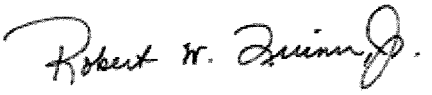
[26] *Accord* Ericsson Comments at 6-7; Reply Comments of Lucent Technologies, Inc., WT Docket Nos. 06-169 and 96-86, at 7-9 (Nov. 6, 2006).

[27] *Accord* Ericsson Reply Comments at 3-4.

public safety 700 MHz bands into 5.5 MHz channels provides no additional benefit with regard to economies of scale.[28]

If you have any questions regarding this response, please do not hesitate to contact the undersigned.

Respectfully submitted,



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[28] *Id.* at 6.